Overall the porosity and permeability of the sandstones within the EVCM were better than expected. King 1 has shown that there are sandstones in the upper EVCM of the Bass Basin with excellent reservoir characteristics.

3.13 Occurrence of Hydrocarbons

No significant hydrocarbons were encountered within the Torquay Group or Demons Bluff Formation. Methane was first detected shortly after drilling out of the 340mm casing at about 460m. Volumes increased with depth and at 860m ethane was first detected. From there through to the 244mm casing point at 1246m the gas maintained a background level of approximately 45 units* with a chromatographic breakdown of C_1 95% and C_2 5% **. A maximum of 125 units was detected at 970m comprising methane with a trace of ethane.

* 1 unit = 200 ppm methane equivalent in air.

** Chromatographic breakdown expressed as percent of total volume analysed C_1%, C_2%, C_3%, C_4%, C_5+%

Routine analyses were run to C_5+.

Eastern View Coal Measures

Although King 1 was abandoned as a dry well significant gas and fluorescence shows were observed throughout the EVCM.

Upon penetration of the primary objective sandstones of the upper EVCM, a drilling break (1394m to 1397m) produced a poor to fair show comprising a gas peak of 14 units (93%,7%) over a background of 2 units (95%, 5%) from an unconsolidated quartz sand with 80% very dull uniform yellow white fluorescence giving a trace cut and a siltstone giving 100% patchy dull to occasional bright yellow white and gold speckled fluorescence with a slow streaming and instant crush cut.

Two cores were cut back to back to evaluate these sandstones, (1397m to 1410.5m), full descriptions and analyses can be found in Appendix 6. Fluorescence shows in Core 1 were fair to good with 20 to 80% uniform dull moderately bright yellow to yellow white fluorescence with slow streaming cuts. However in Core 2 the fluorescence shows were poor, being intermittent and frequently laminated in common with the structures of the core. Core plug retort analysis gave variable oil contents from nil to 6.1% of fluid summation.

After drilling out a short interval Cores 3 and 4 were cut back to back (1423.5m to 1440m) in an attempt to evaluate sandstones that produced hydrocarbons in FIT 6 in the nearby Cormorant 1 well. For full details refer to Appendix 6. There was a total absence of fluorescence in both cores except near the base of Core 3 over the intervals 1432.1m to 1432.2m, and 1432.4m to 1432.7m. A good fluorescence show was associated with a coarse grained uncemented sandstone between 1432.4m to 1432.7m. 40 to 100% patchy to uniform dull yellow to green yellow fluorescence with bright yellow gold spots was observed. This gave an instant streaming to diffuse bright white cut with a moderate light brown residue film. A strong petroliferous odour was noted together with droplets of free light brown oil when examined under the microscope. No porosity/permeability analysis was performed on this sand as the sample recovered at surface was loose. Core plug retort analysis for Cores 3 and 4 indicated sporadic oil distribution of up to 3.4% of fluid summation.